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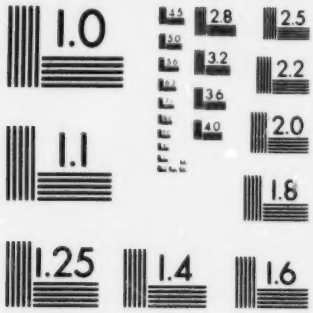

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ALLIS-CHALMERS ENERGY AND MINERALS SYSTEMS COMPANY
SALA MAGNETICS OPERATION
247 THIRD STREET • CAMBRIDGE, MASSACHUSETTS 02142

DRY MAGNETIC SEPARATION of EASTERN COALS

Final Report

ALLIS-CHALMERS
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617/868-2550 TELEX: 92-1475

SALA MAGNETICS OPERATION

ALLIS-CHALMERS ENERGY AND MINERALS
SYSTEMS COMPANY

DRY MAGNETIC SEPARATION
of
EASTERN COAL

Final Report
by

Ionel Wechsler

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ALLIS-CHALMERS CORPORATION

Summary

The scope of this program has been to determine the possibility of reducing the ash content from Canadian Eastern coals by using dry high gradient magnetic separation.

Coals tested have been

- Petro Canada (Kipp)
- Devco Lingan , and
- Devco Prince.

Tests have been performed with coals ground to minus 1.4 mm., respectively 0.6 mm and split in different particle size fractions.

Results indicate that

- ash content in these coals can be substantially reduced;
- best results can be obtained with the Devco Lingan coal while the worst results have been obtained with the Devco Prince coal;
- dedusting (screening the - 400 M fraction) is absolutely necessary in order to obtain good results;
- low matrix loading gives better de-ashing.

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Introduction

Scope of this program is to determine the possibility of reducing the ash content of

- Petro Canada (Kipp)
- Devco Lingan
- Devco Prince

coals by using the dry high gradient magnetic separation technique and equipment.

Coal samples have been prepared by CANMET and delivered to us in following particle size fractions

1.4 x 0.2 mm
0.6 x 0.21 mm
0.21 x 0.105 mm
- 0.105 mm
0.105 x 0.037 mm

Products obtained have been sent back to CANMET for chemical analysis.

Description of work performed

In roder to determine the extent to which dry high gradient magnetic separation can be used, experiments have been performed while varying the

- magnetic field intensity (20.0 kG; 13.9 kG and 9.1 kG)
- matrix design (matrices No. 31;59;57;56 and 51)
- matrix loading (0.36; 0.24 ; 0.12 and 0.024 gr/cm^3)
- air flow velocity (between 100 and 500 ft/min).

A total of 216 test have been performed and products obtained have been sent to CANMET for chemical analysis.

Working conditions used during these tests and the weight distributions obtained are presented in Tables No.1 to 13.

All tests have been performed with the standard laboratory high gradient magnetic separator Model 10-15-20, in our facilities located in Cambridge Ma.

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Technical discussion

Chemical analysis of the products obtained in this tests program are presented in Tables No.14 to 31.
An analysis of the data indicates that :

- best suited matrices are
  No.59 for the 0.6 x 0.21 fraction
  No.57 for the 0.21 x 0.105 fraction
  No.56 for the 0.105 x 0.037 fraction;
- lower matrix loadings give better quality products, certainly at lower weight and combustible recovery;
- lower air flow velocity assure better product quality but at lower wight and combustible recovery;
- dedusting of the - 0.105 fraction is necessay in order to obtain a good quality product.

Based on these data an estimate for a unit with a capacity of 100 TPH feed has been made.
Capacity has been calculated based on a matrix loading of 0.12 gr/cm^3.
Depending on required air flow velocity (100 ft/min to 500 ft/min) capital investment including the high gradient magnetic separator,auxiliary equipment (air pumps,cyclons and/or filter bags) and installation should vary between $ 60,000 and $ 90,000 per ton hour capacity.
Power consumption should vary between 10 and 15 kwh/ton feed.
Cost of grinding equipment and the power consumption for it and for the classification equipment are not included in the above.

Conclusions

Dry high gradient magnetic separation is a proven process which can successfuly upgrade the Eastern Canadian coals.
Capital investment and power consumption could be reduced if larger capacity plants (300 to 400 tph) will be buit.

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SALA MAGNETICS/ CANMET Ref No. 480 TABLE 1

SAMPLE: Petro Canada (Kipp): 1.4x 0.2 mm

Test Conditions & Product Balance \ Run No.		90	91	92	93	94	95	96	97	94(a)
Matrix No.		31	31	31	31	31	31	31	31	31
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	20.	20.	9.1
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	150	100	350	50	100	200	150	150	50
	2									
Matrix Loading	3	0.12	0.24	0.24	0.24	0.24	0.24	0.12	0.36	0.24
Feed Amount grams		100.2	199.8	200.8	201.2	201	0201.2	100.2	301.8	201.6
Weight Distribution %	M1	34.1	38.7	24.2	32.3	27.5	24.1	37.4	31.2	18.5
	P1	65.9	61.3	75.8	67.7	72.5	75.9	62.6	68.8	81.5
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 2

SAMPLE: Petro Canada (Kipp): 600 x 210 μ_m

Test Conditions & Product Balance \ Run No.		1	2	3	4	5	6	7	8	
Matrix No.		31	31	31	31	31	31	31	31	
Flowsheet No.		1	1	1	1	1	1	1	1	
Magnet No.		1	1	1	1	1	1	1	1	
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.8	13.8	13.8	9.1	
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	35	50	200	300	50	200	300	50	
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	
Feed Amount grams		200.2	200.4	200.1	200.3	200.4	200.4	200.5	205.9	
Weight Distribution %	M1	33.1	33.0	25.5	18.7	23.4	18.9	15.6	15.2	
	P1	66.9	67.0	74.5	81.3	76.6	81.1	84.4	84.8	
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/____ CANMET Ref No. 480 TABLE 2

SAMPLE: Petro Canada (Kipp): 600x210 μm

Test Conditions & Product Balance \ Run No.		17	11	12	13	14	15	16	18	19
Matrix No.		59	59	59	59	59	59	59	59	59
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	9.1	20.	20.	20.	13.9	13.9	13.9	20.	20.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	100	100	200	300	50	100	300	200	200
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.12	0.36
Feed Amount grams		200.0	199.2	199.6	199.7	200.5	197.8	199.6	100.3	298.7
Weight Distribution %	M1	25.1	43.4	31.3	22.8	37.7	22.0	16.6	38.5	28.7
	P1	74.9	56.6	68.7	77.2	62.3	78.0	83.4	61.5	71.3
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 2

SAMPLE: PETRO CANADA (KIPP) (-28 + 65 mesh / 500 x 210 μm) Page 3 of 3

Test Conditions & Product Balance \ Run No.		106	107	108	109	110				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	20	14				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	250	200	350	300	200				
	2									
Matrix loading	3	0.24	0.24	0.12	0.12	0.12				
Feed Amount grams		199.	199.	99.2	99.4	99.4				
Weight Distribution %	M1	23.6	20.3	24.0	28.2	27.5				
	P1	76.4	79.7	76.0	71.8	72.5				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 3

SAMPLE: Petro Canada (Kipp): 210 x 105 μm

Test Conditions & Product Balance \ Run No.		31	32	33	34	35	36	37	38	39
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	9.	13.8	13.8
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.12	0.36
Feed Amount grams		199.8	201.7	201.9	199.6	202.1	201.2	198.6	101.1	300.5
Weight Distribution %	M1	46.2	36.9	31.1	33.5	26.1	26.8	29.2	43.0	34.7
	P1	53.8	63.1	68.9	66.5	73.9	73.2	70.8	57.0	65.3
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 3

SAMPLE: PETRO CANADA (kipp): 210 X 105 µm

Test Conditions & Product Balance / Run No.		41	42	43	44	45	46	47	48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.		1	1	1	1	1	1	1	1	
Magnet No.		1	1	1	1	1	1	1	1	
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	350	200	300	350	200	200	
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	
Feed Amount grams		196.7	198.7	201.1	200.5	200.9	199.7	200.6	301.4	
Weight Distribution %	M1	38.8	31.0	25.1	32.3	24.2	22.7	25.5	26.4	
	P1	61.2	69.0	74.9	67.7	75.8	77.3	74.5	73.6	
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 3

SAMPLE: PETRO CANADA (KIPP) (-65 + 150 mesh / 210 x 105 µm)

Test Conditions & Product Balance \ Run No.		101	102	103	104	105				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	14				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	400	400	400	350				
	2									
Matrix loading	3	0.24	0.24	0.12	0.12	0.12				
Feed Amount grams		198.	199.	97.7	99.6	99.1				
Weight Distribution %	M1	20.8	14.2	23.4	16.7	20.6				
	P1	79.2	85.8	76.6	83.3	79.4				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 4

SAMPLE: Petro Canada (- 150 mesh)

Test Conditions & Product Balance \ Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	400	500	200	300	400	200	400
	2									
	3									
Matrix loading		0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Feed Amount grams		200.	200.	202.	202.	198.	200.	199.	199.	203.
Weight Distribution %	M1	46.9	28.3	20.0	15.2	35.2	21.9	15.0	32.8	13.3
	P1	53.1	71.7	80.0	84.8	64.8	78.1	85.0	57.2	86.7
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 4

SAMPLE: Petro Canada (-150 mesh)

Test Conditions & Product Balance \ Run No.		10	11	12	13	14				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	400	500	300				
	2									
	3									
~~Matrix loading~~ Feed Amount grams		0.24	0.24	0.24	0.24	0.24				
		190.	191.	201.	202.	194.				
Weight Distribution %	M1	39.4	25.8	16.7	11.1	22.3				
	P1	60.6	74.2	83.3	88.9	77.7				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 4

SAMPLE: PETRO CANADA (KIPP) -150 mesh

Test Conditions & Product Balance / Run No.		101	103	104	105	106	107			
Matrix No.		56	51	51	51	51	51			
Flowsheet No.		1	1	1	1	1	1			
Magnet No.		1	1	1	1	1	1			
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20	20	13.8			
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	400	500	450	400	300			
	2									
Matrix loading	3	0.24	0.24	0.24	0.24	0.12	0.12			
Feed Amount grams		96.7	200.	195.	198.	97.6	97.7			
Weight Distribution %	M1	20.7	20.9	14.9	18.1	23.9	29.3			
	P1	79.3	79.1	85.1	81.9	76.1	70.7			
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 5

SAMPLE: Petro Canada (Kipp) -150 + 400 M

Test Conditions & Product Balance \ Run No.		99	100	101	102	103				
Matrix No.		56	56	56	56	56				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	325	438	220	220	325				
	2									
	3									
Matrix loading		0.024	0.024	0.024	0.024	0.024				
Feed Amount grams		20.16	20.36	19.25	19.80	19.98				
Weight Distribution %	M1	23.01	16.99	25.92	24.70	19.52				
	P1	76.99	83.01	74.08	75.30	80.48				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/____ CANMET Ref No. 480 TABLE 6

SAMPLE: Devco (Lingan) : 600 X 210μm

Test Conditions & Product Balance \ Run No.		1	2	3	4	5	6	7	8	
Matrix No.		31	31	31	31	31	31	31	31	
Flowsheet No.		1	1	1	1	1	1	1	1	
Magnet No.		1	1	1	1	1	1	1	1	
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	13.8	9.1	
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	50	200	350	50	100	200	350	200	
	2									
Matrix Loading -	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	
Feed Amount grams		200.2	198.9	199.4	199.7	198.9	199.4	199.2	197.2	
Weight Distribution %	M1	36.0	32.3	27.6	30.4	27.2	25.3	23.8	18.8	
	P1	64.0	67.7	72.4	69.6	72.8	74.7	76.2	81.2	
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 6

SAMPLE: Devco (Lingan): 600 x 210μm

Test Conditions & Product Balance \ Run No.		11	12	13	14	15	16	17	18	19
Matrix No.		59	59	59	59	59	59	59	59	59
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	100	250	350	100	200	300	200	250	250
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.36	0.12
Feed Amount grams		200.0	199.6	198.5	199.1	199.5	199.4	199.7	297.7	99.3
Weight Distribution %	M1	38.3	33.4	31.9	36.3	34.7	28.3	31.3	29.2	32.3
	P1	61.7	66.6	68.1	63.7	65.3	71.7	68.7	70.8	67.7
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 6

SAMPLE: DEVCO LINGAN (-28 + 65 mesh 600 x 210 μm)

Test Conditions & Product Balance / Run No.		306	307	308	309	310				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	14	20	14				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	250	300	300				
	2									
Matrix loading	3	0.24	0.24	0.24	0.12	0.12				
Feed Amount grams		199.	199.	199.	99.4	99.1				
Weight Distribution %	M1	29.4	25.8	26.9	32.2	29.2				
	P1	70.6	74.2	73.1	67.8	70.8				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 7

SAMPLE: Devco (Lingan): 210 x 105 μm

Test Conditions & Product Balance \ Run No.		31	32	33	34	35	36	37	38	39
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.12	0.36
Feed Amount grams		199.6	199.0	199.6	199.0	198.4	199.1	201.2	98.9	298.5
Weight Distribution %	M1	36.0	33.3	23.3	27.3	25.4	21.9	28.1	28.9	27.8
	P1	64.0	66.7	76.7	72.7	74.6	78.1	71.9	71.1	72.2
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 7

SAMPLE: DEVCO (Lingan): 210 X 105 μm

Test Conditions & Product Balance \ Run No.		41	42	43	44	45	46	47	48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.		1	1	1	1	1	1	1	1	
Magnet No.		1	1	1	1	1	1	1	1	
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	150	200	350	100	200	350	100	100	
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.36	
Feed Amount grams		202.6	198.4	198.1	203.2	197.4	197.1	198.2	295.6	
Weight Distribution %	M1	34.8	32.0	24.1	31.2	25.1	24.0	29.6	23.2	
	P1	65.2	68.0	75.9	68.8	74.9	76.0	70.4	76.8	
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 7

SAMPLE: DEVCO LINGAN (-65 + 150 mesh 210 x 105 μm)

Test Conditions & Product Balance \ Run No.		301	302	303	304	305				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	400	400	400	200				
	2									
Matrix loading	3	0.24	0.24	0.12	0.12	0.12				
Feed Amount grams		196.	199.	99.6	98.4	98.5				
Weight Distribution %	M1	17.5	17.1	18.9	17.0	25.2				
	P1	82.5	82.9	81.1	83.0	74.8				
	M2									
	P2									
	M3									
	P3									
% Calculated Feed	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
% Calculated Feed	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 8

SAMPLE: Lingan (-150 mesh)

Test Conditions & Product Balance / Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	600	700	300	500	700	400	600
	2									
Matrix loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Feed Amount grams		197.	195.	196.	193.	195.	196.	193.	194.	192.
Weight Distribution %	M1	37.6	27.0	17.3	11.7	34.0	16.	9.1	21.1	9.7
	P1	62.4	73.0	82.7	88.3	66.0	84.0	90.9	78.9	90.3
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 8

SAMPLE: Lingan (-150 mesh)

Test Conditions & Product Balance / Run No.		11	12	13	14	15				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	500	700	400				
	2									
Matrix loading	3	0.24	0.24	0.24	0.24	0.24				
Feed Amount grams		188.	196.	197.	197.	198.				
Weight Distribution %	M1	34.3	22.1	16.9	8.4	19.3				
	P1	65.7	77.9	83.1	91.6	80.7				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 8

SAMPLE: DEVCO LINGAN -150 mesh

Test Conditions & Product Balance / Run No.		201	202	203	205	206	207	208		
Matrix No.		56	56	56	51	51	51	51		
Flowsheet No.		1	1	1	1	1	1	1		
Magnet No.		1	1	1	1	1	1	1		
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20	20	20	13.8		
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	500	600	500	400	500	500		
	2									
Matrix loading	3	0.12	0.12	0.12	0.24	0.24	0.12	0.12		
Feed Amount grams		94.4	95.5	95.9	192.	193.	95.0	95.2		
Weight Distribution %	M1	26.8	20.2	16.2	19.7	24.7	22.1	17.0		
	P1	73.2	79.7	83.8	80.3	75.3	77.9	83.0		
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 9

SAMPLE: Lingan -150 + 400 M Page 1 of 1

Test Conditions & Product Balance / Run No.		95	96	97	98	99				
Matrix No.		56	56	56	56	56				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	325	438	220	220	325				
	2									
	3									
Matrix loading		0.024	0.024	0.024	0.024	0.024				
Feed Amount grams		19.35	19.55	19.23	19.75	19.11				
Weight Distribution %	M1	28.11	21.53	31.51	31.03	28.31				
	P1	71.89	78.47	68.49	68.97	71.69				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 10

SAMPLE: DEVCO (Prince): 600 X 210 µm

Test Conditions & Product Balance / Run No.		1	2	3	4	5				
Matrix No.		31	31	31	31	31				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	9.1				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	50	100	200	50	50				
	2									
	3									
Matrix Loading		0.24	0.24	0.24	0.24	0.24				
Feed Amount grams		199.6	195.3	199.8	200.3	200.0				
Weight Distribution %	M1	22.4	20.8	17.7	16.0	10.7				
	P1	77.6	79.2	82.3	84.0	89.3				
	M2									
	P2									
	M3									
	P3									
% Calculated Feed	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
% Calculated Feed	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 10

SAMPLE: DEVCO (Prince): 600 X 210 μm

Test Conditions & Product Balance / Run No.		11	12	13	14	15	16	17	18	19
Matrix No.		59	59	59	59	59	59	59	59	59
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	20	20
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	100	200	300	100	200	300	100	200	200
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.12	0.36
Feed Amount grams		200.6	200.2	199.6	199.8	200.6	199.6	200.4	100.2	299.4
Weight Distribution %	M1	31.1	26.0	18.5	23.3	19.8	14.0	16.4	32.4	21.3
	P1	68.9	74.0	81.5	76.7	80.2	86.0	83.6	67.6	78.7
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 10

SAMPLE: DEVCO PRINCE (-28 + 65 mesh 600 x 210 μm)

Test Conditions & Product Balance \ Run No.		206	207	208	209	210				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	20	14				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	250	250	350	250	300				
	2									
Matrix loading	3	0.24	0.24	0.24	0.12	0.12				
Feed Amount grams		199.	199.	199.	99.4	99.4				
Weight Distribution %	M1	17.9	12.9	13.5	24.0	16.4				
	P1	82.1	87.1	86.5	76.0	83.6				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 11

SAMPLE: Devco(Prince): 210 x 105 μm

Test Conditions & Product Balance / Run No.		31	32	33	34	35	36	37	38	39
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.12	0.36
Feed Amount grams		199.5	200.1	197.8	200.2	202.1	199.9	199.9	100.1	298.8
Weight Distribution %	M1	42.8	32.6	28.0	31.3	23.0	17.0	23.6	36.3	27.1
	P1	57.2	67.4	72.0	68.7	77.0	83.0	76.4	63.7	72.9
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 11

SAMPLE: DEVCO (Prince): 210 X 105 μm

Test Conditions & Product Balance / Run No.		41	42	43	44	45	46	47	48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.		1	1	1	1	1	1	1	1	
Magnet No.		1	1	1	1	1	1	1	1	
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2									
	3									
Flow Velocity ft/min.	SALA-HGMS® 1	150	200	300	100	200	300	150	200	
	2									
Matrix Loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.36	
Feed Amount grams		202.0	200.0	199.2	200.4	199.8	199.3	200.6	296.6	
Weight Distribution %	M1	34.4	29.0	19.6	33.1	27.7	18.1	22.8	21.3	
	P1	65.6	71.0	80.4	66.9	72.3	81.9	77.2	78.7	
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 11

SAMPLE: DEVCO PRINCE (-65 + 150 mesh / 210 x 105 µm)

Test Conditions & Product Balance \ Run No.		201	202	203	204	205				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	20				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	300	350	350	400				
	2									
Matrix loading	3	0.24	0.36	0.12	0.12	0.12				
Feed Amount grams		199.	298.	99.4	99.0	93.5				
Weight Distribution %	M1	13.0	20.7	20.9	15.6	16.8				
	P1	87.0	79.3	79.1	84.4	83.2				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 12

SAMPLE: Devco Prince (- 150 mesh)

Test Conditions & Product Balance \ Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	13.9	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	200	500	400	100	200	300	500	200
	2									
Matrix loading	3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Feed Amount grams		196.	196.	198.	200.	199.	201.	198.	197.	198.
Weight Distribution %	M1	29.8	44.0	15.0	21.3	64.4	41.9	25.7	11.7	34.0
	P1	70.2	56.0	85.0	78.7	35.6	58.1	74.3	88.3	66.0
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/___ CANMET Ref No. 480 TABLE 12

SAMPLE: Devco Prince (- 150 mesh)

Test Conditions & Product Balance \ Run No.		10	11	12	13	14	15			
Matrix No.		56	57	57	57	57	57			
Flowsheet No.		1	1	1	1	1	1			
Magnet No.		1	1	1	1	1	1			
Magnetic Field kG	SALA-HGMS® 1	9.	20.	20.	20.	20.	13.9			
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	200	300	400	500	300			
	2									
Matrix loading	3	0.24	0.24	0.24	0.24	0.24	0.24			
Feed Amount grams		199	194	195	198	197	198			
Weight Distribution %	M1	14.4	43.0	27.2	16.9	12.5	22.9			
	P1	85.6	57.0	72.8	83.1	87.5	77.1			
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 12

SAMPLE: DEVCO PRINCE -150 mesh

Test Conditions & Product Balance \ Run No.		301	302	303	305	306	307	308		
Matrix No.		56	56	56	51	51	51	51		
Flowsheet No.		1	1	1	1	1	1	1		
Magnet No.		1	1	1	1	1	1	1		
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20	20	20	13.8		
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	500	400	300	350	400		
	2									
Matrix loading	3	0.12	0.12	0.12	0.24	0.24	0.12	0.12		
Feed Amount grams		97.6	98.1	97.7	198.	200.	96.6	99.0		
Weight Distribution %	M1	35.9	24.2	15.7	18.5	32.0	34.4	21.6		
	P1	64.1	75.8	84.3	81.5	68.0	65.6	78.4		
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 13

SAMPLE: Devco Prince -150 + 400 M

Test Conditions & Product Balance \ Run No.		96	97	98	99	100				
Matrix No.		56	56	56	56	56				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	325	428	220	220	325				
	2									
Matrix loading	3	0.024	0.024	0.024	0.024	0.024				
Feed Amount grams		19.38	19.83	19.49	17.97	19.79				
Weight Distribution %	M1	15.89	11.04	25.65	22.10	12.28				
	P1	84.11	88.96	74.35	79.90	87.72				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS (dry) Ref No. 480 TABLE 14

SAMPLE: PETRO CANADA (Kitt): 600 X 210 μm Page 1 of 3

Test Conditions & Product Balance \ Run No.		K 1	K 2	K 3	K 4	K 5	K 6	K 7		
Matrix No. 31		31	31	31	31	31	31	31		
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1		
	2									
	3									
Flow Velocity	SALA-HGMS® 1	50	200	300	50	200	300	50		
	2									
Matrix loading	3									
Feed Amount grams		200.4	200.1	200.5	200.4	200.4	200.5	205.9		
Weight Distribution %	M1	33.0	25.5	18.7	23.4	18.9	15.6	15.2		
	P1	67.0	74.5	81.3	76.6	81.1	84.4	84.8		
	M2									
	P2									
	M3									
	P3									
% Ash	M1	52.3	61.5	68.2	59.0	65.9	66.8	60.7		
	P1	15.7	16.3	18.5	18.3	18.9	20.6	21.9		
	M2									
	P2									
	M3									
	P3									
Calculated Feed		27.9	27.8	27.8	27.8	27.8	27.8	27.8		
Distribution % Ash	M1	62.1	56.3	45.9	49.7	44.8	37.5	33.2		
	P1	37.9	43.7	54.1	50.3	55.2	62.5	66.8		
	M2									
	P2									
	M3									
	P3									
% Com	M1	47.3	38.5	31.8	41.0	34.1	33.2	39.3		
	P1	84.3	83.7	81.5	81.7	81.1	79.4	15.2		
	M2									
	P2									
	M3									
	P3									
Calculated Feed		72.2	72.2	72.2	72.2	72.2	72.2	72.2		
Distribution % Com	M1	21.7	13.6	8.2	13.3					
	P1	78.3	86.4	71.8	86.7					
	M2									
	P2									
	M3									
	P3									
Selectivity Index		5.7								
NOTES										

SALA MAGNETICS/ HGMS (Dry) Ref No. 480 TABLE 14

SAMPLE: PETRO CANADA (Kipp): 600 X 210 MM Page 2 of 3

Test Conditions & Product Balance \ Run No.		K 11	K 12	K 13	K 14	K 15	K 16	K 17	K 18	K 19
Matrix No. -		59	59	59	59	59	59	59	59	59
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	20	20
	2									
	3									
Flow Velocity	SALA-HGMS® 1	100	200	300	50	100	300	100	200	200
	2									
	3									
Feed Amount grams		199.1	199.6	199.7	200.5	197.9	199.6	200.0	100.3	298.7
Weight Distribution %	M1	43.2	31.3	22.8	37.8	22.0	16.6	25.1	38.5	29.7
	P1	56.9	68.7	77.2	62.2	78.0	83.3	74.9	61.5	71.3
	M2									
	P2									
	M3									
	P3	53.7								
% Ash	M1	50.7	63.1	71.9	53.8	69.3	75.6	56.2	54.0	60.6
	P1	10.4	11.7	14.8	12.0	16.1	18.3	20.3	10.9	14.6
	M2									
	P2									
	M3									
	P3	27.1								
	Calculated Feed	27.6	27.9	27.8	27.9	27.6	27.6	27.9	27.8	27.8
Distribution % Ash	M1	78.8	71.1	59.0	73.2	54.8	45.2	48.1	75.1	62.5
	P1	21.2	28.9	41.0	26.8	45.2	54.8	51.1	24.1	37.5
	M2									
	P2									
	M3									
	P3									
% Com	M1	49.3	36.9	28.1	46.2	30.7	24.4	49.8	45.2	39.4
	P1	89.6	88.3	85.2	88.0	83.9	81.7	77.7	89.1	85.4
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution % Com	M1	29.5	16.0	8.9	24.2	9.3	5.6	17.2	24.1	15.7
	P1	70.5	84.0	91.1	75.8	90.7	94.4	82.8	75.9	84.3
	M2									
	P2									
	M3									
	P3									
Selectivity Index		8.9	12.9	14.7	8.6	11.8	13.9	4.6	9.9	8.9
NOTES										

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 14

SAMPLE: PETRO CANADA (KIPP) (-28 + 65 mesh 500 x 210 μm)

Test Conditions & Product Balance \ Run No.		K 106	K 107	K 108	K 109	K 110				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	20	14				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	250	200	350	300	200				
	2									
	3									
Feed Amount grams		199.	199.	99.2	99.4	99.4				
Weight Distribution %	M1	23.6	20.3	24.0	28.2	27.5				
	P1	76.4	79.7	76.0	71.8	72.5				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	68.7	71.6	65.4	63.5	63.2				
	P1	15.2	16.6	15.9	13.8	14.4				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	27.8	27.8	27.8	27.8	27.8				
Distribution % Ash	M1	58.3	52.3	56.5	64.4	62.5				
	P1	41.7	47.7	43.5	35.6	37.5				
	M2									
	P2									
	M3									
	P3									
% Conc	M1	31.3	28.4	34.6	36.5	36.8				
	P1	84.8	83.3	84.1	86.2	85.6				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	72.2	72.2	72.2	72.2	72.2				
Distribution % Conc	M1	10.2	8.0	11.5	14.3	14.0				
	P1	89.8	92.0	88.5	85.7	86.0				
	M2									
	P2									
	M3									
	P3									
Selectivity Index		12.3	12.6	10.0	10.8	10.2				
NOTES										

SALA MAGNETICS/ HGMS (Dry) Ref No. 680 TABLE 15

SAMPLE: PETRO CANADA (Kipp): 210 X 105 µm Page 1 of 3

Test Conditions & Product Balance \ Run No.		K 31	K 32	K 33	K 34	K 35	K 36	K 37	K 38	K 39
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2				↓	↓				
Matrix Loading	3									
Feed Amount grams		199.8	201.7	201.9	199.6	202.1	201.2	198.6	101.1	300.5
Weight Distribution %	M1	46.2	36.9	31.1	33.5	25.1	26.8	29.2	43.0	34.7
	P1	53.8	63.1	68.9	66.5	73.9	73.2	70.8	57.0	65.3
	M2									
	P2									
	M3									
	P3									
% ASH	M1	49.1	53.4	62.1	57.9	65.0	61.1	61.1	50.2	
	P1	10.6	13.0	12.2	12.8	14.8	15.8	14.2	11.1	
	M2									12.1
	P2									
	M3									
	P3									
	Calculated Feed	27.4	27.9	27.9	27.4	27.1	27.9	27.4	27.9	
Distribution % ASH	M1	79.6	70.6	64.9	69.5	63.3	58.6	64.0	77.4	
	P1	20.4	29.4	30.1	30.5	36.2	41.4	36.0	22.6	
	M2									
	P2									
	M3									
	P3									
% COM	M1	51.9	46.6	37.3	42.1	35.0	38.9	38.9	49.8	
	P1	84.4	87.0	87.8	87.2	85.2	84.2	85.8	88.9	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution % COM	M1	33.3	23.9	16.1	19.6	12.7	14.5	15.8	29.1	
	P1	66.7	76.1	83.9	80.4	87.3	85.5	84.2	70.3	
	M2									
	P2									
	M3									
	P3									
Selectivity index		7.8	8.8	12.1	9.3	10.7	8.3	9.5	9.1	
NOTES										

SALA MAGNETICS/ HGMS Ref No. 480 TABLE 15

SAMPLE: PETRO CANADA (Kitaa): 210 x 105 µm Page 2 of 3

Test Conditions & Product Balance / Run No.		K 41	K 42	K 43	K 44	K 45	K 46	K 47	K 48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2	0		5						
	3	1.0								
Flow Velocity	SALA-HGMS® 1	200	300	350	200	300	350	200	200	
	2									
Matrix Loading	3									
Feed Amount grams		196.7	199.4	201.1	200.5	200.9	199.7	200.6	301.4	
Weight Distribution %	M1	38.8	31.0	25.1	32.3	24.2	22.7	25.5	26.4	
	P1	61.2	69.0	74.9	67.7	75.8	77.3	74.5	73.6	
	M2									
	P2									
	M3									
	P3									
% ASH	M1	53.9	60.4	65.4	57.6	65.4	67.7	57.7	57.5	
	P1	11.4	13.3	15.3	12.6	15.6	16.2	17.7	17.3	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	27.4	27.9	27.7	27.7	27.9	27.9	27.4	27.9	
Distribution % ASH	M1	75.0	67.1	58.9	69.0	57.3	55.1	49.2	54.4	
	P1	25.0	32.9	41.1	31.0	42.7	44.9	50.8	45.6	
	M2									
	P2									
	M3									
	P3									
% COM	M1	46.1	39.6	34.6	40.4	33.6	32.3	42.3	42.5	
	P1	88.6	86.7	84.7	87.2	84.4	83.8	82.3	82.7	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	
Distribution % COM	M1	24.8	17.0	12.0	18.1	11.3	10.2	15.0	15.6	
	P1	75.2	83.0	88.0	81.9	88.7	89.8	85.0	84.4	
	M2									
	P2									
	M3									
	P3									
Selectivity index		9.1	10.0	10.5	10.1	10.5	10.8	5.4	6.5	

NOTES

SALA MAGNETICS/ CANMET Ref No. 450 TABLE 15

SAMPLE: PETRO CANADA (KIPP) (-65 + 150 mesh / 210 x 105 µm)

Test Conditions & Product Balance \ Run No.		101	102	103	104	105				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	14				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	400	400	400	400	350				
	2									
Matrix Loading										
Feed Amount grams		198.	199.	97.7	99.6	99.1				
Weight Distribution %	M1	20.8	14.2	23.4	16.7	20.6				
	P1	79.2	85.8	76.6	83.3	79.4				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	67.8	63.7	65.1	68.7	66.3				
	P1	17.4	22.0	16.5	19.7	18.0				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	27.9	27.9	27.9	27.9	27.9				
Distribution % Ash	M1	50.6	32.4	54.6	41.1	48.9				
	P1	49.4	67.6	45.4	58.9	51.1				
	M2									
	P2									
	M3									
	P3									
% Com	M1	32.2	36.7	34.9	31.3	33.7				
	P1	82.6	78.8	83.5	80.3	82.0				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	72.1	72.1	72.1	72.1	72.1				
Distribution % Com	M1	9.3	7.2	11.3	7.2	9.6				
	P1	90.7	92.7	88.7	92.8	90.4				
	M2									
	P2									
	M3									
	P3									
Selectivity Index		9.9	6.2	9.4	9.0	9.0				
NOTES										

SAMPLE: Petro Canada (- 150 mesh) Page 1 of 2

Test Conditions & Product Balance / Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	200	300	400	500	200	300	400	200	400
	2									
	3									
Feed Amount grams		200.	200.	202.	202.	198.	200.	199.	199.	203.
Weight Distribution %	M1	46.9	28.3	20.0	15.2	35.2	21.9	15.0	32.8	13.3
	P1	53.1	71.7	80.0	84.8	64.8	78.1	85.0	67.2	86.7
	M2									
	P2									
	M3									
	P3									
% Ash	M1	45.8	51.2	56.4	59.5	46.2	54.8	55.9	43.3	50.3
	P1	20.7	25.1	26.5	27.6	25.0	26.2	28.3	27.2	29.7
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
Distribution % Ash	M1	66.2	44.6	34.7	27.9	50.1	37.0	25.9	43.7	20.6
	P1	33.8	55.4	65.3	72.1	49.9	63.0	74.1	56.3	79.4
	M2									
	P2									
	M3									
	P3									
% Com	M1	54.2	48.8	43.6	40.5	53.8	45.2	44.1	56.7	49.7
	P1	79.3	74.9	73.5	72.4	75.0	73.8	71.7	72.8	70.3
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution % Com	M1	37.6	20.5	12.9	9.1	28.0	14.7	9.8	27.5	9.8
	P1	62.4	79.5	87.1	90.9	72.0	85.3	90.2	72.5	90.2
	M2									
	P2									
	M3									
	P3									
		3.25	3.12	3.58	3.86	2.58	3.41	3.22	2.04	2.34
NOTES										

MAGNETICS/ CANMET Ref No. 480 TABLE 16

SAMPLE: Petro Canada (-150 mesh)

Test Conditions & Product Balance / Run No.		10	11	12	13	14				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG — SALA-HGMS®	1	20.	20.	20.	20.	13.9				
	2									
	3									
Flow Velocity ft/min — SALA-HGMS®	1	200	300	400	500	300				
	2									
	3									
Feed Amount grams		190.	191.	201.	202.	194.				
Weight Distribution %	M1	39.4	25.8	16.7	11.1	22.3				
	P1	60.6	74.2	83.3	88.9	77.7				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	46.9	50.5	55.9	59.4	49.7				
	P1	23.1	26.2	27.8	29.1	27.5				
	M2									
	P2									
	M3									
	P3									
Calculated Feed		32.5	32.5	32.5	32.5	32.5				
Distribution % Ash	M1	56.9	40.1	28.7	20.3	34.2				
	P1	43.1	59.9	71.3	79.7	65.8				
	M2									
	P2									
	M3									
	P3									
% Conc	M1	53.1	49.5	44.1	40.6	50.3				
	P1	76.9	73.8	72.2	70.9	72.5				
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution % Conc	M1	31.0	18.9	10.9	6.7	16.6				
	P1	69.0	81.1	89.1	93.3	83.4				
	M2									
	P2									
	M3									
	P3									
NOTES		2.94	2.87	3.29	3.55	2.61				

MAGNETICS Ref No. TABLE

SAMPLE: Petro Canada (- 150 mesh + 400 mesh) Sized after Mag. Sep. Page 1 of 2

Test Conditions & Product Balance / Run No.	1	2	3	4	5	6	7	8	9
Matrix No.	56	56	56	56	56	56	56	56	56
Flowsheet No.	1	1	1	1	1	1	1	1	1
Magnet No.	1	1	1	1	1	1	1	1	1
Magnetic Field kG — SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.
Magnetic Field kG — 2									
Magnetic Field kG — 3									
Flow Velocity ft/min — SALA-HGMS® 1	200	300	400	500	200	300	400	200	400
Flow Velocity ft/min — 2									
Flow Velocity ft/min — 3									
Feed Amount grams	~~200.~~	~~200.~~	~~202.~~	~~202.~~	~~198.~~	~~200.~~	~~199.~~	~~199.~~	~~203.~~
Weight Distribution % M1	30.7	19.1	14.0		23.6	14.6	13.7	23.5	
Weight Distribution % P1	69.3	80.9	86.0		76.4	85.4	86.3	76.5	
Weight Distribution % M2									
Weight Distribution % P2									
Weight Distribution % M3									
Weight Distribution % P3									
% Ash M1	52.9	58.3	60.7		48.5	60.4	60.9	43.1	
% Ash P1	14.9	17.2	19.7		19.3	19.9	20.9	20.9	
% Ash M2									
% Ash P2									
% Ash M3									
% Ash P3									
Calculated Feed	26.6	25.0	25.4		26.2	25.8	26.4	26.0	
Distribution % Ash M1	61.1	44.4	33.4		43.7	34.2	31.7	39.0	
Distribution % Ash P1	38.9	55.6	66.6		56.3	65.8	68.3	61.0	
Distribution % Ash M2									
Distribution % Ash P2									
Distribution % Ash M3									
Distribution % Ash P3									
% Com M1	47.1	41.7	39.3		51.5	39.6	39.1	56.9	
% Com P1	85.1	82.8	80.3		80.7	80.1	79.1	79.3	
% Com M2									
% Com P2									
% Com M3									
% Com P3									
Calculated Feed	73.4	75.0	74.6		73.8	74.2	73.6	73.6	
Distribution % Com M1	19.7	10.6	7.4		16.5	7.8	7.3	18.1	
Distribution % Com P1	80.3	89.4	92.6		83.5	92.2	92.7	81.9	
Distribution % Com M2									
Distribution % Com P2									
Distribution % Com M3									
Selectivity index	6.4	6.7	6.3		3.9	6.1	6.1	2.9	
NOTES	1424	1113.5	854.		1148.6	672.2	534.5	1139.	
	1033	1396.5	1674.		1494.5	1672.5	1803.7	1583.6	
	2457	2505.0	2544.		2689.1	2231.5	2338.0	2586.5	

CANCELLED

CANCELLED

Ref No. 470 TABLE 17

(- 150 mesh + 400 mesh)

Page 2 of 2

10	11	12	13	14		- 400 M 1	- 400 M 2	- 400 M 3
57	57	57	57	57		56	56	56
1	1	1	1	1		1	1	1
1	1	1	1	1		1	1	1
20.	20.	20.	20.	13.9		20	20	20
200	300	400	500	300				
~~190.~~	~~191.~~	~~201.~~	~~202.~~	~~194.~~				
27.4	18.2	14.1		15.0		61.3	42.1	30.3
72.6	81.8	85.9		85.0		38.7	57.9	69.7
45.9	49.8	57.7		64.0		46.0	47.0	50.4
19.4	20.7	20.8		19.3		36.1	40.1	38.6
26.3	26.0	26.0		26.0		42.2	44.2	42.9
53.7	34.9	31.3		36.9		66.9	45.9	35.6
46.3	65.1	68.7		63.1		33.1	54.1	64.4
54.1	50.2	42.3		36.0				
82.6	79.3	79.2		80.7				
19.8	12.3	8.0		7.3				
80.2	87.7	92.0		92.7				
4.7	3.8	5.2		7.4				
4.7	3.8	5.2		7.4				
1455	1693	2737		1640				
1259								
27.12								

CANCELLED

1444. 776.5 550.2 1215.4 578.2 535.7 1337.1 1482. 913.6 594.4 540.

5897 669.5 5640.5

SALA MAGNETICS/ CANMET Ref No. 450 TABLE 18

SAMPLE: PETRO, CANADA (-150+400M) Page 1 of 11

Test Conditions & Product Balance \ Run No.		80	81	82	83					
Matrix No.		56	56	56	56					
Flowsheet No.		1	1	1	2					
Magnet No.		1	1	1	1					
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20					
	2									
	3									
Flow Velocity mm/sec. 39 rpm	SALA-HGMS® 1	400	220	325	440					
	2									
	3	H.S.E. 2 l/m								
Feed Amount grams		93.6	98.5	100.0	99.9					
Weight Distribution %	M1	26.5	25.7	23.0	13.1					
	P1	73.5	74.3	77.0						
	M2				7.6					
	P2				79.1					
	M3									
	P3									
% Ash	M1	38.6	46.8	48.2	58.3					
	P1	13.2	12.2	13.0						
	M2				32.3					
	P2				13.9					
	M3									
	P3									
	Calculated Feed	19.9	21.1	21.1	21.1					
Distribution % Ash	M1	51.3	57.0	52.6	36.1					
	P1	48.7	43.0	47.4						
	M2				11.9					
	P2				52.0					
	M3									
	P3									
% Conc	M1	61.4	53.2	51.8	41.7					
	P1	86.8	87.8	87.0						
	M2				67.7					
	P2				96.1					
	M3									
	P3									
	Calculated Feed	80.1	79.8	79.9	79.9					
Distribution % Conc	M1	20.3	17.3	15.1	6.9					
	P1	79.7	82.7	84.9						
	M2				6.7					
	P2				86.4					
	M3									
	P3									
Selectivity index *		4.14	6.3	6.2	5.9					
NOTES		Average of 3			300 @ 350 ft/min					

SALA MAGNETICS/ CANADA Rel No. 450 TABLE 19

SAMPLE: PETRO CANADA HB-400 M.

Test Conditions & Product Balance \ Run No.		99	100	101	102	103				
Matrix No.		VE	VE	VE	VE	VE				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity mm/sec. ft/min	SALA-HGMS® 1	325	438	220	220	325				
	2									
	3									
Feed Amount grams		20.16	20.36	19.25	19.80	19.98				
Weight Distribution %	M1	23.01	16.99	25.92	24.70	19.52				
	P1	76.99	83.01	74.08	75.30	80.48				
	M2									
	P2									
	M3									
	P3									
Ash %	M1	50.0	56.7	47.4	47.0	48.1				
	P1	11.8	13.2	11.2	11.9	14.1				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	20.6	20.6	20.6	20.6	20.6				
Distribution % Ash	M1	55.9	46.8	59.6	56.4	44.6				
	P1	44.1	53.2	40.4	43.6	55.4				
	M2									
	P2									
	M3									
	P3									
Com %	M1	50.0	43.3	52.6	53.0	51.9				
	P1	88.2	86.8	88.8	88.1	85.9				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	79.4	79.4	79.4	79.4	79.4				
Distribution % Com	M1	14.5	9.3	17.2	16.5	12.5				
	P1	85.5	90.7	82.8	83.5	87.5				
	M2									
	P2									
	M3									
	P3									
Selectivity Index		7.5	8.6	7.1	6.6	5.6				
NOTES										

SALA MAGNETICS/ HGMS (Dry) Ref No. 480 TABLE 20

SAMPLE: DEVCO (Lingan) COAL (0.6 x 2)

Test Conditions & Product Balance \ Run No.		L 1	L 2	L 3	L 4	L 5	L 6	L 7	L 8
Matrix No.		31	31	31	31	31	31	31	31
Flowsheet No.									
Magnet No.									
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	13.8	9.1
	2								
	3								
Flow Velocity MATRIX LOADING	SALA-HGMS® 1	50	200	350	50	100	200	350	200
	2								
	3								
Feed Amount grams		200.2	198.9	199.4	199.7	198.9	199.4	199.2	197.2
Weight Distribution %	M1	36.0	32.3	27.6	30.4	27.2	25.3	23.8	18.8
	P1	64.0	67.7	72.4	69.6	72.8	74.7	76.2	81.2
	M2								
	P2								
	M3								
	P3								
% Ash	M1	59.0	66.9	71.9	66.0	66.4	70.1	73.1	77.7
	P1	6.9	6.0	8.1	8.1	10.5	10.7	11.0	13.7
	M2								
	P2								
	M3								
	P3								
	Calculated Feed	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7
Distribution % Ash	M1	82.8	84.2	77.2	78.1	70.3	68.9	67.5	56.8
	P1	17.2	15.8	22.8	21.9	29.7	31.1	32.5	43.2
	M2								
	P2								
	M3								
	P3								
% St	M1	1.7	2.0	1.8	2.1	1.5	2.0	2.5	1.8
	P1	2.1	1.8	1.5	1.6	1.9	1.6	1.5	1.8
	M2								
	P2								
	M3								
	P3								
	Calculated Feed	1.9	1.8	1.6	1.8	1.7	1.7	1.7	1.8
Distribution % St	M1	31.3	35.9	31.5	36.4	23.7	29.7	34.2	18.8
	P1	68.7	64.1	68.5	63.6	76.3	70.3	65.8	81.2
	M2								
	P2								
	M3								
	P3								
NOTES									

SALA MAGNETICS/ HGMS (Dry) Ref No. 480 TABLE 20

SAMPLE: DEVCO (LINGAN) : 600 X 200 µm Page 2 of 3

Test Conditions & Product Balance / Run No.		L 11	L 12	L 13	L 14	L 15	L 16	L 17	L 18	L 19
Matrix No.		59	59	59	59	59	59	59	59	59
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity	SALA-HGMS® 1	100	250	350	100	200	300	200	250	250
	2						Air			
Matrix loading	3									
Feed Amount grams		200.0	199.6	198.5	199.1	199.5	199.4	197.9	99.3	297.7
Weight Distribution %	M1	38.3	33.4	31.9	36.3	34.7	28.3	31.3	32.3	29.2
	P1	61.7	65.4	68.1	63.7	65.3	71.7	68.7	67.7	70.8
	M2									
	P2									
	M3									
	P3									
% Ash	M1	62.4	70.2	73.3	64.0	66.5	77.3	74.7	72.2	74.6
	P1	3.0	3.4	3.4	3.9	4.0	5.4	3.7	3.5	5.4
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	25.7	25.7	25.7	25.7	25.7	25.7	23.7	25.7	25.7
Distribution % Ash	M1	92.8	91.2	91.0	90.3	89.8	85.2	90.9	90.8	85.1
	P1	7.2	8.8	9.0	9.7	10.2	14.8	9.1	9.2	14.9
	M2									
	P2									
	M3									
	P3									
% S	M1	1.9	2.0	1.6	2.1	2.1	1.8	1.6	1.9	1.7
	P1	1.7	1.7	2.0	1.6	1.6	1.8	1.9	1.7	1.8
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Distribution % S	M1	41.0	37.3	27.2	44.5	37.1	28.3	27.8	34.5	28.0
	P1	59.0	62.7	72.8	55.5	72.9	71.7	32.2	65.5	72.0
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ LAKMET Ref No. 450 TABLE 20

SAMPLE: DEVCO LINGAN (-28 + 65 mesh, 600 x 210 μm) Page 3 of 3

Test Conditions & Product Balance \ Run No.		L 306	L 307	L 308	L 309	L 310				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	14	20	14				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	300	400	250	300	300				
	2									
	3									
Feed Amount grams		199.	199.	199.	99.4	99.1				
Weight Distribution %	M1	29.4	25.8	26.9	32.2	29.2				
	P1	70.6	74.2	73.1	67.8	70.8				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	77.9	79.7	78.7	72,0	75.2				
	P1	5.1	6.7	6.2	3.7	5.3				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	25.7	25.7	25.7	25.7	25.7				
Distribution % Ash	M1	86.4	80.1	82.4	90.2	85.4				
	P1	13.6	19.9	17.6	9.8	14.6				
	M2									
	P2									
	M3									
	P3									
% St	M1	1.5	1.4	1.5	1.7	1.4				
	P1	2.0	2.0	1.9	1.9	2.0				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	1.8	1.8	1.8	1.8	1.8				
Distribution % St	M1	23.8	19.6	22.2	29.9	22.4				
	P1	76.2	80.4	77.8	70.1	77.6				
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS (Dry) Rel No. 480 TABLE 21

SAMPLE: DEVCO (Lingman) : 210 X 105 μm

Test Conditions & Product Balance / Run No.		L 31	L 32	L 33	L 34	L 35	L 36	L 37	L 38	L 39
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2									
Matrix Loading	3									
Feed Amount grams		199.6	199.0	199.6	199.0	198.4	199.1	201.2	98.9	298.5
Weight Distribution %	M1	36.0	33.3	23.3	27.3	25.4	21.9	28.1	28.9	27.8
	P1	64.0	66.7	76.7	72.7	74.6	78.1	71.9	71.1	72.2
	M2									
	P2									
	M3									
	P3									
% ASH	M1	44.9	48.1	66.9	57.8	61.7	70.3	55.3	52.6	56.3
	P1	2.7	2.5	3.0	2.9*	3.0*	3.2	3.5	3.8	3.1
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.1
Distribution % ASH	M1	90.3	89.6	87.1	88.2	87.5	86.0	86.3	84.9	87.5
	P1	9.7	10.4	12.4	11.8	12.5	14.0	13.7	15.1	12.5
	M2									
	P2									
	M3									
	P3									
% St	M1	3.0	3.1	3.1	3.3	2.7	2.6	3.1	3.2	3.2
	P1	1.6	1.6	1.6	1.7	1.7	2.0	1.7	1.7	1.7
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	2.10	2.10	1.95	2.14	1.95	2.13	2.09	2.13	2.12
Distribution % St	M1	51.3	49.7	37.0	42.2	35.1	26.7	41.6	43.3	42.0
	P1	48.7	50.8	63.0	57.8	64.9	73.3	58.4	56.7	58.0
	M2									
	P2									
	M3									
	P3									
NOTES	* Averaged two results.									

SALA MAGNETICS/ HGMS (Dry.) Rpt No. 480 TABLE 21

SAMPLE: DEVCO (LINGAN): 210 X 105 μm Page 2 of 2

Test Conditions & Product Balance / Run No.		L 41	L 42	L 43	L 44	L 45	L 46	L 47	L 48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2									
	3									
Flow Velocity	SALA-HGMS® 1	150	200	350	100	200	350	100	200	
	2									
Matrix Loading	3									
Feed Amount grams		202.6	198.4	198.1	203.2	197.4	198.1	193.2	295.6	
Weight Distribution %	M1	34.8	32.0	24.1	31.2	25.1	24.0	29.6	23.2	
	P1	65.2	68.0	75.1	68.8	74.9	76.0	70.4	76.8	
	M2									
	P2									
	M3									
	P3									
% ASH	M1	46.6	50.2	65.8	51.6	62.7	65.1	52.6	67.2	
	P1	2.6	2.7	2.7	2.6	2.8*	3.0*	2.3	3.0	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	17.1	17.9	17.9	17.9	17.1	17.9	17.9	17.7	
Distribution % ASH	M1	90.6	89.7	88.5	89.9	87.9	87.3	87.0	87.1	
	P1	9.4	10.3	11.5	10.1	12.1	12.7	13.0	12.9	
	M2									
	P2									
	M3									
	P3									
% St	M1	3.1	3.1	3.2	3.1	3.0	2.7	3.0	3.4	
	P1	1.5	1.6	1.7	1.5	1.7	2.0	1.7	1.5	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	2.06	2.09	2.06	2.00	2.03	2.17	2.08	1.93	
Distribution % St	M1	52.4	47.7	37.4	48.3	37.2	29.9	42.6	41.0	
	P1	47.6	52.3	62.6	51.7	62.8	70.1	57.4	59.0	
	M2									
	P2									
	M3									
	P3									
NOTES *		Average results								

SALA MAGNETICS — Rel No. [illegible] — Table 21

SAMPLE: DEVCO LINGAN (-65 + 150 mesh 210 x 105 μm)

Test Conditions & Product Balance \ Run No.		301	302	303	304	305				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	9				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	400	400	400	400	200				
	2									
Matrix Loading										
Feed Amount grams		196.	199.	99.0	98.4	98.5				
Weight Distribution %	M1	17.5	17.1	18.9	17.0	25.2				
	P1	82.5	82.9	81.1	83.0	74.8				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	71.2	62.9	72.8	74.4	59.5				
	P1	6.6	8.6	5.1	6.3	3.9				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	17.9	17.9	17.9	17.9	17.9				
Distribution % Ash	M1	69.6	60.1	76.9	70.7	83.8				
	P1	30.4	39.9	23.1	29.3	16.2				
	M2									
	P2									
	M3									
	P3									
% St	M1	2.2	2.3	2.7	2.3	2.4				
	P1	2.1	2.1	2.0	2.0	1.7				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	2.1	2.1	2.1	2.1	2.1				
Distribution % St	M1	18.2	18.4	23.9	19.1	36.5				
	P1	81.8	81.6	76.1	80.9	63.5				
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ LAMPLT Ref No. 480 TABLE 22

SAMPLE: Lingan (-150 mesh)

Test Conditions & Product Balance \ Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	600	700	300	500	700	400	600
	2									
	3									
Feed Amount grams		197.	195.	196.	193.	195.	196.	193.	194.	192.
Weight Distribution %	M1	37.6	27.0	17.3	11.7	34.0	16.0	9.1	21.1	9.7
	P1	62.4	73.0	82.7	88.3	66.0	84.0	90.9	78.9	90.3
	M2									
	P2									
	M3									
	P3									
% Ash	M1	44.1	49.7	53.0	54.8	41.5	48.7	50.9	43.2	47.6
	P1	13.0	15.2	18.8	20.7	16.0	20.1	22.0	19.7	22.2
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7
Distribution % Ash	M1	67.5	54.2	37.0	26.0	57.2	31.6	18.8	37.0	18.7
	P1	32.5	45.8	63.0	74.0	42.8	68.4	81.2	63.0	81.3
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ _____ CANMET _____ Ref No. 480 TABLE 22

SAMPLE: Lingan (-150 mesh)

Test Conditions & Product Balance \ Run No.		11	12	13	14	15				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	400	500	700	400				
	2									
	3									
Feed Amount grams		188.	196.	197.	197.	198.				
Weight Distribution %	M1	34.3	22.1	16.9	8.4	19.3				
	P1	65.7	77.9	83.1	91.6	80.7				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	43.9	49.4	49.5	52.8	46.3				
	P1	14.7	17.7	19.7	22.1	19.5				
	M2									
	P2									
	M3									
	P3									
Calculated Feed		24.7	24.7	24.7	24.7	24.7				
Distribution % Ash	M1	60.9	44.2	33.8	18.0	36.2				
	P1	39.1	55.8	66.2	82.0	63.8				
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
Calculated Feed										
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

KINETICS/ CLIENT Ref No. TABLE 23

Test: Lingan (-150 +400 M) Sized after Mag. Sep

Page 1 of 2 — (-150 +400 M)

Ref No 480 TABLE 23

Page 2 of 2

Test Conditions & Product Balance	Run No.	1	2	3	4	5	6	12 7	8	9	11	12	13	14	15	- 400 M 1	- 400 M 2	- 400 M 3
Matrix No.		56	56	56	56	56	56	56 57	56	56	57	57	57	57	57	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	9.	9.	20.	20.	20.	20.	13.9	20	20	20
	2																	
	3																	
Flow Velocity ft/min	SALA-HGMS® 1	300	400	600	700	300	500	400	400	600	300	400	500	700	400	300	400	600
	2																	
	3																	
Feed Amount grams		~~197.~~	~~195.~~	~~196.~~	~~193.~~	~~195.~~	~~196.~~	~~196.~~	194.	~~192.~~	~~188.~~	~~198.~~	~~197.~~	~~197.~~	~~198.~~			
Weight Distribution %	M1	23.9	16.4	11.3		19.9	19.9	13.6	10.8		20.1	13.6	10.0		10.8	52.9	37.2	26.0
	P1	76.1	83.6	88.7		80.1	90.1	86.4	89.2		79.9	86.4	90.0		89.2	47.1	62.8	74.0
	M2																	
	P2																	
	M3																	
	P3																	
% Ash	M1	48.9	58.2	65.7		46.1	62.5	60.7	49.9		51.5	60.7	61.9		59.4			
	P1	7.1	8.4	11.5		9.1	12.2	10.5	12.0		8.3	10.5	12.3		12.6			
	M2																	
	P2																	
	M3																	
	P3																	
	Calculated Feed	17.1	16.6	17.6		16.5	17.0	17.3	16.1									
Distribution % Ash	M1	68.3	57.6	42.1		55.7	36.7	47.6	33.5		17.0	17.3	17.2		17.7	39.9	39.9	39.9
	P1	31.7	42.4	57.9		44.3	63.6	52.4	66.5		61.0	47.6	35.6		36.3			
	M2										39.0	52.4	64.4		63.7			
	P2																	
	M3																	
	P3																	
% St	M1	2.8	3.1	2.7		3.0	2.5		2.8		3.1	3.2	2.9		2.7			
	P1	2.0	2.1	2.2		2.0	2.1		2.1		2.0	2.0	2.1		2.1			
	M2																	
	P2																	
	M3																	
	P3																	
	Calculated Feed	2.2	2.2	2.2		2.2	2.2	2.2	2.2									
Distribution % St	M1	30.5	22.4	13.5		26.3	11.6	20.1	13.9		28.0	20.1	13.3		13.5			
	P1	69.5	77.6	86.5		73.8	88.4	79.9	86.1		72.0	79.9	86.7		86.5			
	M2																	
	P2																	
	M3																	
	P3																	
NOTES		1168.7	954.8	742.4		917.4	1619.0	825.5	~~538.7~~									
		540.3	702.2	1020.0		728.7	1081.2	707.2	1076.4		1035.2	825.5	616.0	± 1	641.6			
		1709.0	1656.7	1762.4		1646.3	1700.2	1732.7	1609.3		663.2	907.2	1107.0	1107.	1173.9			
											1698.4	1732.7	1723.0	1729.1	1765.4			

CANCELLED

CANCELLED

66.9 47.8 58.8 20.5

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 24

SAMPLE: LINGAN, (-150+400M)

Test Conditions & Product Balance \ Run No.		80	81	82	83
Matrix No.		56	56	56	56
Flowsheet No.		1	1	1	1
Magnet No.					
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20
	2				
	3				
Flow Velocity	SALA-HGMS® 1	400	325*	400	440
	2				
Slurry	3	Heat			
Feed Amount grams		98.6	97.7	98.5	99.3
Weight Distribution %	M1	22.3	27.3	22.4	20.8
	P1	77.7	72.7	77.6	79.2
	M2				
	P2				
	M3				
	P3				
% Ash	M1	57.6	50.2	59.3	61.6
	P1	7.1	5.8	6.0	6.4
	M2				
	P2				
	M3				
	P3				
	Calculated Feed	18.4	17.9	17.9	17.9
Distribution % Ash	M1	70.0	76.5	74.1	71.6
	P1	30.6	23.5	25.9	28.4
	M2				
	P2				
	M3				
	P3				
% St	M1	1.3	1.8	1.4	1.2
	P1	2.4	2.2	2.3	2.5
	M2				
	P2				
	M3				
	P3				
	Calculated Feed	2.2	2.1	2.1	2.2
Distribution % St	M1	22.7	23.5	15.0	17.2
	P1	77.3	76.5	85.0	82.8
	M2				
	P2				
	M3				
	P3				
NOTES *		Average of 300 & 350 ft/min			

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 25

SAMPLE: LINEAR 150-400 M.

Test Conditions & Product Balance / Run No.		95	96	97	98	99				
Matrix No.		J6	J6	J6	J6	J6				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	325	438	220	220	325				
	2									
	3									
Feed Amount grams		19.35	19.55	19.23	19.75	19.11				
Weight Distribution %	M1	28.11	21.53	31.51	31.03	28.31				
	P1	71.89	78.47	68.49	68.97	71.69				
	M2									
	P2									
	M3									
	P3									
Ash %	M1	52.5	60.8	49.0	47.8	48.1				
	P1	4.6	6.3	3.6	4.5	6.0				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	17.9	17.9	17.9	17.9	17.9				
Distribution %	M1	81.9	72.9	86.2	82.7	76.0				
	P1	18.1	27.1	13.8	17.3	24.0				
	M2									
	P2									
	M3									
	P3									
S_t %	M1	2.4	2.1	3.0	2.8	2.0				
	P1	1.9	2.1	1.7	1.8	2.2				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	2.1	2.1	2.1	2.1	2.1				
Distribution % S_t	M1	33.0	21.5	44.8	41.1	26.4				
	P1	67.0	78.5	55.2	58.9	73.6				
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS (Dry) Ref No. 480 TABLE 26

SAMPLE: DEVCO (Prince) COAL (0.6 x 0.2 Page 1 of 3

Test Conditions & Product Balance \ Run No.		P 1	P 2	P 3	P 4	P 5				
Matrix No.		31	31	31	31	31				
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	9.1			—	
	2									
MATRIX LOADING	3	0.3	0.3	0.3	0.3	0.3				
Flow Velocity	SALA-HGMS® 1	50	100	200	50	50				
	2									
	3									
Feed Amount grams		199.6	195.3	199.8	200.3	200.0				
Weight Distribution %	M1	22.4	20.8	17.7	16.0	10.7				
	P1	77.6	79.2	82.3	84.0	89.3				
	M2									
	P2									
	M3									
	P3									
% ASH	M1	46.7	50.9	53.1	50.0	45.4				
	P1	15.4	14.9	15.7	17.1	19.6				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	22.4	22.4	22.4	22.4	22.4				
Distribution % ASH	M1	44.6	47.2	42.1	55.7	21.7				
	P1	55.4	52.8	57.9	44.3	79.3				
	M2									
	P2									
	M3									
	P3									
% St	M1	4.5		4.5		4.5				
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution % St	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS (Dry.) Ref No. 400 TABLE 26

SAMPLE: DERCO (Prince) : 600 X 210 µm Page 2 of 3

Test Conditions & Product Balance / Run No.		P 11	P 12	P 13	P 14	P 15	P 16	P 17	P 18	P 19
Matrix No.		59	59	59	59	59	59	59	59	59
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	20	20
	2									
	3									
Flow Velocity	SALA-HGMS® 1	100	200	300	100	200	300	100	200	200
	2									
Matrix loading	3									
Feed Amount grams		200.6	200.2	199.6	199.8	200.6	199.6	200.4	100.2	299.4
Weight Distribution %	M1	31.1	26.0	18.5	23.3	19.8	14.0	16.4	32.4	21.3
	P1	68.9	74.0	81.5	76.7	80.2	86.0	83.6	67.4	78.7
	M2									
	P2									
	M3									
	P3									
% Ash	M1	48.1	50.0	55.4	50.0	55.0	54.9	51.5	47.3	56.0
	P1	10.8	12.7	14.1	14.0	14.4	16.3	16.7	10.5	13.3
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
Distribution % Ash	M1	66.8	58.0	45.8	52.0	48.5	37.4	37.7	68.4	55.3
	P1	33.2	42.0	54.2	48.0	51.5	62.6	62.3	31.6	46.7
	M2									
	P2									
	M3									
	P3									
% St	M1	4.2	4.3	3.9	3.5	3.5	3.4	4.0	4.8	4.1
	P1	4.4	4.3	4.4	4.5	4.5	4.4	4.3	4.1	4.4
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Distribution % St	M1	30.1	26.0	16.6	19.8	16.1	14.6	15.4	36.0	20.1
	P1	69.9	74.0	83.4	80.2	83.9	85.4	84.6	64.0	79.9
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. 400 TABLE 26

SAMPLE: DEVCO PRINCE (-28 + 65 mesh 600 x 210 μm) Page 3 of 3

Test Conditions & Product Balance / Run No.		P 206	P 207	P 208	P 209	P 210				
Matrix No.		59	59	59	59	59				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	20	14				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	250	250	350	250	300				
	2									
	3									
Feed Amount grams		199.	199.	199.	99.4	99.4				
Weight Distribution %	M1	17.9	12.9	13.5	24.0	16.4				
	P1	82.1	87.1	86.5	76.0	83.6				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	57.4	58.6	60.7	52.1	54.5				
	P1	14.8	17.0	16.4	13.0	16.1				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	22.4	22.4	22.4	22.4	22.4				
Distribution % Ash	M1	54.2	33.8	36.6	55.9	39.9				
	P1	45.8	66.2	63.4	44.1	60.1				
	M2									
	P2									
	M3									
	P3									
% St	M1	3.7	3.4	3.5	3.5	3.5				
	P1	4.4	4.5	4.5	4.5	4.5				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.3	4.3	4.3	4.3	4.3				
Distribution % St	M1	15.5	10.1	10.8	19.7	13.2				
	P1	85.5	89.9	89.2	80.3	86.8				
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS (Dry) Ref No. 480 TABLE 27

SAMPLE: DEVCO (Princeton): 210 X 105 μm

Test Conditions & Product Balance / Run No.		P 31	P 32	P 33	P 34	P 35	P 36	P 37	P 38	P 39
Matrix No.		56	56	56	56	57	56	56	56	56
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	13.8
	2									
	3									
Flow Velocity	SALA-HGMS® 1	200	300	350	200	300	350	200	200	200
	2									
Matrix Loading	3									
Feed Amount grams		199.5	200.1	197.8	200.2	202.1	199.9	199.9	100.1	298.8
Weight Distribution %	M1	42.8	32.6	28.0	31.3	23.0	17.0	23.6	36.3	27.1
	P1	57.2	67.4	72.0	68.7	77.0	83.0	76.4	63.7	72.9
	M2									
	P2									
	M3									
	P3									
% Ash	M1	37.2	42.1	42.4	44.8	51.2	60.4	55.1	38.4	45.4
	P1	6.8	9.0	11.0	8.7	10.4	11.5	8.9	9.2	10.3
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	19.6	19.8	19.6	19.8	17.6	19.6	19.6	19.3	17.3
Distribution % Ash	M1	80.4	69.3	60.0	70.6	59.5	51.8	65.7	70.4	62.1
	P1	19.6	30.7	40.0	29.2	40.5	48.2	34.3	29.6	37.9
	M2									
	P2									
	M3									
	P3									
% St	M1	5.4	5.1	4.9	5.0	4.6	4.6	4.5	5.3	5.2
	P1	3.6	4.0	4.2	4.1	4.3	4.1	4.3	4.0	4.1
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Distribution % St	M1	52.9	38.2	31.2	35.7	24.2	17.1	24.8	43.1	32.0
	P1	47.1	61.8	68.8	64.3	75.8	82.9	75.2	56.9	68.0
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ HGMS Ref No. 480 TABLE 27

SAMPLE: DEVCO (Prince): 210 x 105 μm

Test Conditions & Product Balance / Run No.		P 41	P 42	P 43	P 44	P 45	P 46	P 47	P 48	
Matrix No.		57	57	57	57	57	57	57	57	
Flowsheet No.										
Magnet No.										
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.8	13.8	13.8	9.1	13.8	
	2									
	3									
Flow Velocity	SALA-HGMS® 1	150	200	300	100	200	300	150	200	
	2									
Matrix Loading	3									
Feed Amount grams		202.0	200.0	199.2	200.4	199.8	199.3	200.6	296.6	
Weight Distribution %	M1	34.4	29.0	19.6	33.1	27.7	18.1	22.8	21.3	
	P1	65.6	71.0	80.4	66.9	72.3	81.9	77.2	78.7	
	M2									
	P2									
	M3									
	P3									
% Ash	M1	41.9	46.9	63.7	45.1	49.4	59.3	48.2	54.5	
	P1	8.2	8.7	9.1	7.3	8.6	11.3	11.4	10.4	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	14.5	14.8	14.6	14.5	14.8	14.9	14.8	14.8	
Distribution % Ash	M1	72.7	64.1	63.1	73.4	69.1	53.3	55.5	58.6	
	P1	27.3	32.9	36.9	26.6	30.9	46.7	44.5	41.4	
	M2									
	P2									
	M3									
	P3									
% St	M1	5.4	5.2	4.7	5.0	4.9	4.3	4.7	5.0	
	P1	3.8	4.0	4.3	4.0	4.2	4.4	4.6	4.4	
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.4	4.4	4.4	4.4	4.4	4.4	4.5	4.5	
Distribution % St	M1	42.7	34.7	21.0	38.1	30.9	17.8	23.7	23.5	
	P1	57.3	65.3	79.0	61.9	69.1	82.2	76.3	76.5	
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANNET

SAMPLE: DEVCO PRINCE (-65 + 150 mesh / 210 x 105 μm) Rot No. 440 TABLE 27

Test Conditions & Product Balance \ Run No.		201	202	203	204	205				
Matrix No.		57	57	57	57	57				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	14	20	14	20				
	2									
	3									
Flow Velocity	SALA-HGMS® 1	400	300	350	350	400				
	2									
Matrix Loading										
Feed Amount grams		199.	298.	99.4	99.0	93.5				
Weight Distribution %	M1	13.0	20.7	20.9	15.6	16.8				
	P1	87.0	79.3	79.1	84.4	83.2				
	M2									
	P2									
	M3									
	P3									
% Ash	M1	51.9	36.8	46.1	46.5	54.6				
	P1	15.5	16.0	13.4	16.1	13.2				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	20.2	20.2	20.2	20.2	20.2				
Distribution % Ash	M1	33.4	37.7	47.6	32.8	45.5				
	P1	66.6	62.3	52.4	67.2	54.5				
	M2									
	P2									
	M3									
	P3									
% St	M1	3.9	4.5	4.4	4.2	4.5				
	P1	4.7	4.6	4.7	4.6	4.6				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.6	4.6	4.6	4.6	4.6				
Distribution % St	M1	11.0	20.3	19.8	14.4	16.5				
	P1	89.0	79.7	80.2	85.6	83.5				
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ [illegible] Ref No. 440 TABLE 28

SAMPLE: Devco Prince (- 150 mesh)

Test Conditions & Product Balance / Run No.		1	2	3	4	5	6	7	8	9
Matrix No.		56	56	56	56	56	56	56	56	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	13.9	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	200	500	400	100	200	300	500	200
	2									
	3									
Feed Amount grams		196.	196.	198.	200.	199.	201.	198.	197.	198.
Weight Distribution %	M1	29.8	44.0	15.0	21.3	64.4	41.9	25.7	11.7	34.0
	P1	70.2	56.0	85.0	78.7	35.6	58.1	74.3	88.3	66.0
	M2									
	P2									
	M3									
	P3									
% Ash	M1	36.5	33.7	39.4	38.3	29.4	31.8	35.6	35.6	31.7
	P1	21.8	20.3	23.4	22.9	20.3	22.2	22.9	25.0	23.4
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
Distribution % Ash	M1	41.6	58.4	22.5	31.2	72.3	50.8	35.0	15.9	41.1
	P1	58.4	43.4	77.5	68.8	27.7	49.2	65.0	84.1	58.9
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

SALA MAGNETICS/ CANMET Ref No. TABLE 28

SAMPLE: Devco Prince (- 150 mesh) Page 2 of 2

Test Conditions & Product Balance \ Run No.		10	11	12	13	14	15			
Matrix No.		56	57	57	57	57	57			
Flowsheet No.		1	1	1	1	1	1			
Magnet No.		1	1	1	1	1	1			
Magnetic Field kG	SALA-HGMS® 1	9.	20.	20.	20.	20.	13,9			
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	400	200	300	400	500	300			
	2									
	3									
Feed Amount grams		199	194	195	198	197	198			
Weight Distribution %	M1	14.4	43.0	27.2	16.9	12.5	22.9			
	P1	85.6	57.0	72.8	83.1	87.5	77.1			
	M2									
	P2									
	M3									
	P3									
% Ash	M1	35.2	33,0	36.0	34.5	38.6	35,1			
	P1	24.7	21.1	22.5	24.5	24.4	23.6			
	M2				1,	2,				
	P2									
	M3									
	P3									
	Calculated Feed	26,2	26,2	26,2	26,2	26,2	26.2			
Distribution % Ash	M1	19,3	54.1	37.4	22.3	18.4	30,7			
	P1	80,7	45.9	62.6	77.7	81,6	69,3			
	M2									
	P2									
	M3									
	P3									
%	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
	Calculated Feed									
Distribution %	M1									
	P1									
	M2									
	P2									
	M3									
	P3									
NOTES										

MAGNETICS/ Ref No. TABLE 29

SAMPLE: Devco Prince (-150 +400M) Sized after Mag. Sep. Page 1 of 2

Test Conditions & Product Balance / Run No.		1	2	3	4	5	6	7	13 8	9
Matrix No.		56	56	56	56	56	56	56	~~56~~ 57	56
Flowsheet No.		1	1	1	1	1	1	1	1	1
Magnet No.		1	1	1	1	1	1	1	1	1
Magnetic Field kG	SALA-HGMS® 1	20.	20.	20.	20.	13.9	13.9	13.9	13.9	9.
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	300	200	500	400	100	200	300	~~600~~ 400	200
	2									
	3									
Feed Amount grams		~~196.~~	~~196.~~	~~198.~~	~~200.~~	~~199.~~	~~201.~~	~~198.~~	~~198.~~	~~198.~~
Weight Distribution %	M1	17.8	25.3		16.2		23.8	15.2	14.3	18.8
	P1	82.2	74.7		83.8		76.2	84.8	85.7	81.2
	M2									
	P2									
	M3									
	P3									
% Ash	M1	31.0	27.4		36.9		~~24.3~~	31.0	~~34.8~~	23.8
	P1	12.4	11.9		13.0		14.1	13.7	13.4	14.0
	M2									
	P2									
	M3									
	P3									
Calculated Feed		15.9	15.8		16.7		16.5	16.3	16.5	15.8
Distribution % Ash	M1	35.1	43.8		34.0		35.0	28.9	30.2	28.3
	P1									
	M2									
	P2									
	M3									
	P3									
% St	M1	4.8	5.4		5.0		5.1	5.1		5.1
	P1	4.3	4.6		4.5		4.6	4.3		4.4
	M2									
	P2									
	M3									
	P3									
Calculated Feed		4.5	4.9		4.6		4.7	4.4		4.5
Distribution % St	M1	19.5	30.1		17.7		26.1	17.5		21.2
	P1	80.5	69.9		82.3		73.9	82.5		78.8
	M2									
	P2									
	M3									
	P3									
551.8		542.2	693.2		~~654.8~~	581.6	575.4	471.2	497.6	447.4
		1019.3	828.9		1089.4		1074.4	1161.8	1145.9	1133.6
		1541.3	1582.1		1744.6		1652.8	1633.0	1646.0	1583.8
		1571.8			1681.0					

NOTES

CANCELLED CANCELLED CANCELLED CANCELLED

CANMET Ref No. 490 TABLE ~~37~~

(-150 +400M) Page 2 of 2

10	11	12	13	14	15	- 400 M 1	2	4
56	57	57	57	57	57	56	56	56
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
9.	20.	20.	20.	20.	13.9	20	20	20
400	200	300	400	500	300	300	200	400
~~199~~	~~194~~	~~195~~	~~198~~	~~197~~	~~198~~			
	24.7	17.0	14.3			37.8	63.0	46.3
	75.3	83.0	85.7					
	25.4	30.5	34.8					
	12.6	13.1	13.9					
	15.8	16.1	16.5					
	39.8	31.4	30.2					
	4.8	4.7	5.1					
	4.3	4.6	4.5					
	4.5	4.5	4.6					
	27.3	18.5	15.9					
	72.7	81.5	84.1					
	627.4	518.5	447.6					
	1148.5	1007.3	1148.4					
	1576.2	1626.6	1646.0					

SALA MAGNETICS/ CANMET Ref No. 480 TABLE 30

SAMPLE: DEVCO Prince (-150 + 400 M)

Test Conditions & Product Balance \ Run No.		80	81	82	83					
Matrix No.		56	56	56	56					
Flowsheet No.		1	1	1	2					
Magnet No.		1	1	1	2					
Magnetic Field kG	SALA-HGMS® 1	20	20	20	20					
	2									
	3									
Flow Velocity	SALA-HGMS® 1	200	200	250	350					
	2									
of Alimin	3	Hold 2Hop								
Feed Amount grams		94.4	100.4	99.6	97.2					
Weight Distribution %	M1	16.3	18.3	16.6	13.4					
	P1	83.7	81.7	83.4						
	M2				8.0					
	P2				78.6					
	M3									
	P3									
% Ash	M1	32.2	35.7	33.9	33.1					
	P1	10.7	10.5	11.3						
	M2				22.6					
	P2				11.3					
	M3									
	P3									
	Calculated Feed	14.2	15.1	15.1	15.1					
Distribution % Ash	M1	37.0	43.3	37.2	29.3					
	P1	63.0	56.7	62.8						
	M2				12.0					
	P2				50.7					
	M3									
	P3									
% St	M1	4.9	5.5	5.3	4.5					
	P1	4.1	4.2	4.3						
	M2				5.5					
	P2				4.4					
	M3									
	P3									
	Calculated Feed	4.2	4.5	4.5	4.5					
Distribution % St	M1	18.9	22.7	19.7	13.3					
	P1	81.1	77.3	80.3						
	M2				9.7					
	P2				77.0					
	M3									
	P3									
NOTES										

SALA MAGNETICS/ COMMET Ref No. 490 TABLE 31

SAMPLE: PRINCE 150 - 400 M. Page 1 of 1

Test Conditions & Product Balance \ Run No.		96	97	98	99	100				
Matrix No.		56	56	56	56	56				
Flowsheet No.		1	1	1	1	1				
Magnet No.		1	1	1	1	1				
Magnetic Field kG	SALA-HGMS® 1	20	20	20	13.9	13.9				
	2									
	3									
Flow Velocity ft/min	SALA-HGMS® 1	325	438	220	220	325				
	2									
	3									
Feed Amount grams		19.38	19.83	19.49	17.97	19.79				
Weight Distribution %	M1	15.89	11.04	25.65	22.1	12.28				
	P1	84.11	88.96	74.35	77.9	87.72				
	M2									
	P2									
	M3									
	P3									
Ash %	M1	39.2	40.8	33.3	29.3	36.6				
	P1	10.2	11.5	8.3	10.5	11.6				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	14.7	14.7	14.7	14.7	14.7				
Distribution % Ash	M1	42.4	30.5	58.0	55.8	30.7				
	P1	57.6	69.5	42.0	44.2	69.3				
	M2									
	P2									
	M3									
	P3									
S_t %	M1	6.8	5.3	7.0	5.8	6.2				
	P1	4.1	4.4	3.7	4.2	4.2				
	M2									
	P2									
	M3									
	P3									
	Calculated Feed	4.5	4.5	4.5	4.5	4.5				
Distribution % S_t	M1	23.9	12.0	39.4	28.2	17.2				
	P1	76.1	87.0	60.4	71.8	82.8				
	M2									
	P2									
	M3									
	P3									
NOTES										